

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018462**Date Inspected:** 30-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Yang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Segments**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, Dan Hernandez was present during the times noted above to observe the fit up, welding and related activities associated with the fabrication of the San Francisco Oakland Bay Self Anchored Suspension Bridge at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

**Mechanical Test Weld Lab**

This QA Inspector observed the following mechanical tests for Procedure Qualification Records (PQR) using the Flux Cored Arc Welding (FCAW) process. The PQRs were performed using ESAB E71T-1M Dual Shield 70 Ultra Plus electrode with ceramic backing:

PQR HP2010152 (1G)

PQR HP2010153 (3G)

Macro etch (2 samples)

Reduced Section Tension Test (2 samples)

Side Bend Test (4 samples)

OBG Trial Assembly Yard

Segment 11EE

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## WELDING INSPECTION REPORT

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This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated CA094-002, Edge Plate to Deck Plate hold back weld. The welder is identified as #040320 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG074A-011, Side Plate to Bottom Plate hold back weld. The welder is identified as #047353 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-T-2231-ESAB.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a fillet weld joint. The Weld joint is designated BP190-001-025, 026, Bottom Plate WT stiffener hold back weld. The welder is identified as #053871 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-P-2112-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a fillet weld joint. The Weld joint is designated BP136-001-035, 036, Bottom Plate WT stiffener hold back weld. The welder is identified as #044515 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-P-2112-FCM-1.

### Segment 12AE

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated CA3001-002, Edge Plate to Deck Plate hold back weld. The welder is identified as #040320 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a fillet weld joint. The Weld joint is designated BP3001-001-043, 044, Bottom Plate WT stiffener hold back weld. The welder is identified as #053871 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-P-2112-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a fillet weld joint. The Weld joint is designated BP3001-001-033, 054, Bottom Plate WT stiffener hold back weld. The welder is identified as #044515 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-P-2112-FCM-1.

For the above mentioned welding activities ZPMC Quality Control (QC) Inspectors are identified as Wang Li Yang and An Qing Xiang. The welding variables recorded by QC appeared to comply with the Applicable WPS.

### Segment 12AE

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Side Plate WT stiffener

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## WELDING INSPECTION REPORT

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hold back fillet welds, bike path side.

Segment 11DE/11EE

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Edge Plate to Deck Plate CJP hold back welds, cross beam side.

Segment 11DW

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Side Plate to Bottom Plate longitudinal splice.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### Summary of Conversations:

No relevant conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 150-0042-2372 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Hernandez,Dan	Quality Assurance Inspector
<b>Reviewed By:</b>	Dsouza,Christopher	QA Reviewer

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